REMARKS

Claims 1-3, 5-9, 11-15, 17-21 and 23 are pending in the present case. Claims 1, 7, 13 and 18 are amended herein. Applicant respectfully requests reconsideration in view of the above amendments to the present application, and the arguments set forth below. No new matter is added herein.

REJECTIONS UNDER 35 USC § 102

Claims 1-3 and 5 are rejected under 35 USC 102(b) over U.S. Patent Application Publication No. 2002/0017936 A1 by Stark, et al. (hereinafter Stark). Claim 1 is amended herein as shown below. Applicants have reviewed the cited reference and respectfully assert that Claim 1, as amended herein, and its dependent claims are allowable over Stark for the following rationale.

As amended herein, independent Claim 1 reads as shown below, with underlining added for emphasis.

> 1. A clock signal duty cycle stabilization circuit, comprising:
> an edge detection circuit configured to receive an external clock signal and generate an output therefrom; and
> a latch circuit coupled to receive a first signal comprising the output from the edge detection circuit and a second signal comprising an output from a conditioning circuit, the latch circuit configured to produce an internal clock signal having a rising edge generated with the first signal and a falling edge generated with the second signal <u>wherein the internal clock signal has a duty cycle that is independent of the duty cycle of the external clock</u>.

Claims 2-3 and 5 depend upon independent Claim 1. As amended herein,

independent Claim 1 recites that the internal clock signal generated has a duty cycle that is independent of the duty cycle of the external clock. This element is shared by each of its dependent claims, including Claims 2-3 and 5.

External clock signals tend to vary over certain ranges. Thus, circuits clocked therewith must typically be designed to operate across the range of clock duty cycles to which they may be exposed. These clocked circuits however may demand increased power requirements to achieve useful performance characteristics across the duty cycle range of their external clocks. Unfortunately, increased power requirements can constrain a circuits usefulness in some applications such as mobile, handheld and similar electronic devices, where limiting power consumption is generally beneficial. The embodiments recited herein on the other hand produce an internal clock signal that has a duty cycle independent of the external clock signal with which it is generated. Thus, the embodiments recited herein have the beneficial ability to clock devices, which may have power consumption constraints, and/or where minimizing power consumption can be otherwise advantageous.

As Applicant understands the reference, Stark teaches "[a] duty cycle converter that generates a pair of output signals whose cross-point duty cycle is substantially equal to the edge duty cycle of a pair of input signals." Stark ¶ 6. The teachings of Stark thus differ from the embodiments recited herein, which recite that

the internal clock signal generated has a duty cycle that is independent of the duty cycle of the external clock. For at least this reason, Applicant respectfully asserts that Claims 1-3 and 5 are not anticipated by Stark and are thus allowable over the cited reference under 35 USC 102(b).

Moreover, Applicant respectfully points out that Stark's express teaching that the pair of output signals share a cross-point duty cycle that " is substantially equal to the edge duty cycle of a pair of input signals" (Id.), Stark essentially teaches that the duty cycles of the generated signals is dependent upon the edge duty cycles of its input signals (e.g., external clock). Thus, Applicant respectfully asserts that Stark teaches away from the embodiments recited herein, wherein the internal clock signal generated has a duty cycle that is independent of the duty cycle of the external clock.

Therefore, Applicant respectfully asserts that Stark does not teach or suggest, nor does the reference provide any motivation to achieve, generating an internal clock signal that has a duty cycle independent of the duty cycle of the external clock, as recited herein. For this additional reason, Applicant respectfully asserts that Claims 1-3 and 5 are allowable over Stark under 35 USC 102(b).

REJECTIONS UNDER 35 USC § 103

STARK IN VIEW OF HUYNH

Claims 6-9 and 11-12 are rejected under 35 USC 103(a) over Stark in view of U.S. Patent Application Publication No. 2003/0107432 A1 by Huynh (hereinafter Huynh). Applicants have reviewed the cited reference and respectfully assert that Claims 1 and 7, as amended herein, and their respective dependent claims are allowable over Stark in view of Huynh for the following rationale.

Independent Claim 7 is amended herein after a similar fashion as Claim 1 to recite that the internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as exemplified for the Examiner's convenience above with reference to Claim 1 and which has advantages described above. Applicant respectfully repeats each and every pint asserted above in regards to the Stark reference and respectfully re-asserts that Stark does not teach, suggest, or provide motivation to produce an internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as recited herein and in fact teaches away therefrom. Applicant finds nothing in Huynh that cures these defects of Stark.

As Applicant understands the reference, Huynh teaches a switched capacitor amplifier for a pipestaged analog to digital converter (ADC). Huynh ¶ 20. However,

Applicant finds nothing in Huynh directed towards producing an internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as recited in Claims 1 and 7 and their respective dependent claims. Applicant finds nothing in Stark which cures this defect of Huynh. For at least this reason, Applicant respectfully asserts that Claims 6-9 and 11-12 are not taught or suggested by the combination of Stark and Huynh and in fact, that no motivation exists in either reference to combine them in such a way as to produce this recited element and are thus allowable over the cited references, individually or combined, under 35 USC 103(a).

Moreover, Applicant respectfully points out that Huynh expressly teaches that the amplifier taught therein "may be controlled by a 50% duty cycle clock CLK, having a predetermined clock rate." Huynh, ¶ 26. Thus, Applicant respectfully asserts that Huynh teaches away from the embodiments recited herein, wherein the internal clock signal generated has a duty cycle that is independent of the duty cycle of the external clock. Applicant respectfully re-asserts that Stark also teaches away from this recited element and that nothing therein cures this defect of Huynh.

Both Stark and Huynh both teach away from the elements recited herein, as discussed above. Therefore, Applicant respectfully asserts that Stark and Huynh, individually or combined, do not teach or suggest, nor does the references provide

any motivation to combine their teachings to achieve, generating an internal clock signal that has a duty cycle independent of the duty cycle of the external clock, as recited herein. For this additional reason, Applicant respectfully asserts that Claims 6-9 and 11-12 are allowable over Stark in view of Huynh under 35 USC 103(a).

STARK IN VIEW OF HUYNH AND DAVIS

Claims 13-15, 17-21 and 23 are rejected under 35 USC 103(a) over Stark in view of Huynh and U.S. Patent No. 5,394,114 A to Davis (hereinafter Davis). Claim 1 is amended herein as shown below. Applicants have reviewed the cited reference and respectfully assert that Claims 1 and 7, as amended herein, is allowable over Stark for the following rationale.

Independent Claims 13 and 19 are amended herein after a similar fashion as Claim 1 to recite that the internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as exemplified for the Examiner's convenience above with reference to Claim 1 and which has advantages described above. Applicant respectfully repeats each and every pint asserted above in regards to the Stark reference and respectfully re-asserts that Stark does not teach, suggest, or provide motivation to produce an internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as recited herein and in fact teaches away therefrom. Applicant finds nothing in Davis that cures this defect of

Stark and respectfully reiterates that nothing in Huynh cures these defects of Stark, even combined with Davis.

Applicant respectfully repeats each and every point asserted above in regards to the Huynh reference and respectfully re-asserts that Huynh does not teach, suggest, or provide motivation to produce an internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as recited herein and in fact teaches away therefrom. Applicant finds nothing in Davis that cures this defect of Huynh and respectfully reiterates that nothing in Stark cures these defects of Huynh, even combined with Davis.

As Applicant understands the reference, Davis teaches a waveform generator derived from a periodic reference signal. Davis, col. 1, ll. 12-14 & col. 2, ll. 44-55. However, Applicant finds nothing in Davis directed towards producing an internal clock signal has a duty cycle that is independent of the duty cycle of the external clock, as recited in Claims 13 and 19 and their respective dependent claims. Applicant finds nothing in either Stark or Huynh, individually or combined, which cures this defect of Davis. For at least this reason, Applicant respectfully asserts that Claims 13-15, 17-21 and 23 are not taught or suggested by the combination of Stark, Huynh and Davis and in fact, that no motivation exists in either reference to

combine them in such a way as to produce this recited element and are thus allowable over the cited references, individually or combined, under 35 USC 103(a).

Moreover, Applicant respectfully points out that Davis expressly teaches that clock signals are produced by first generating a periodic voltage signal in response to an error signal" (Id. at col. 2, ll. 46-47) and that "[o]ne of the output clock signals is then selected to be a feedback signal. The feedback signal and a reference signal are phase compared to produce the error signal." Id. at ll. 55-58. Thus, Davis expressly teaches that the clock signal in part depends upon the periodic voltage signal, the periodicity of which comprises a duty cycle like component of an external clocking mechanism. Thus, Applicant respectfully asserts that Davis teaches away from the embodiments recited herein, wherein the internal clock signal generated has a duty cycle that is independent of the duty cycle of the external clock. Applicant respectfully re-asserts that both Stark and Huynh also teach away from this recited element. Nothing in either Stark or Huynh, individually or combined, cure this defect of Davis.

Stark, Huynh and Davis all teach away from the elements recited herein, as discussed above. Therefore, Applicant respectfully asserts that Stark, Huynh and Davis individually or combined, do not teach or suggest, nor do the references provide any motivation to combine their teachings to achieve, generating an internal

clock signal that has a duty cycle independent of the duty cycle of the external clock, as recited herein. For this additional reason, Applicant respectfully asserts that Claims 13-15, 17-21 and 23 are allowable over Stark in view of Huynh and Davis under 35 USC 103(a).

CONCLUSION

By the rationale stated above, Applicant respectfully asserts that Claims 1-3 and 5 are allowable over the cited reference under 35 USC § 102(b) and that Claims 6-9, 11-15, 17-21 and 23 are allowable over the cited references under 35 USC § 103(a). Accordingly Applicant respectfully requests that the rejection of the respective claims under 35 USC §§ 102(b) and 103(a) be withdrawn and that Claims 1-3, 5-9, 11-15, 17-21 and 23 be allowed.

Please charge our deposit account No. 23-0085, for any unpaid fees.

Respectfully submitted,

WAGNER, MURABITO & HAO, LLP

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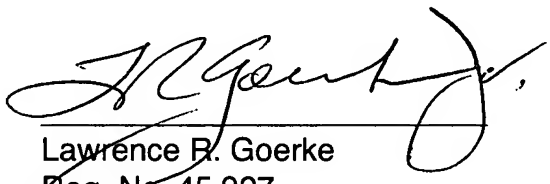

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